REMARKS

Applicant respectfully requests the Examiner's reconsideration of the present application. Claims 2 and 7 have been canceled. Claims 3-5 and 8-10 have been amended. No new claims have been added. Therefore, claims 3-5 and 8-14 are presented for examination.

Claim Amendments

Applicant has amended the claims to more particularly point out what Applicant regards as their invention. No new matter has been added as a result of these amendments.

Information Disclosure Statement

The Examiner has indicated that the Information Disclosure Statement (IDS) filed November 28, 2003, failed to comply with the provisions of 37 C.F.R. §1.97 and MPEP §609 because of missing or inaccurate information in the listing. Applicant respectfully submits herewith an IDS to address the inaccuracies, and requests that the Examiner consider the information listed therein as to its merits. The IDS submitted herewith also includes references in addition to those previously submitted on November 28, 2003, and Applicant respectfully requests the Examiner to consider them as to their merits and mark them as being so considered. Applicant further requests that the Examiner mark as considered all other references in the IDS submitted on November 28, 2003.

Drawings

The drawings stand objected to by the Draftsperson, and the Examiner has indicated that the objection to the drawings will not be held in abeyance. Accordingly, replacement drawings are submitted herewith, and Applicant respectfully requests the withdrawal of the objections to the drawings.

Specification

The Examiner has objected to the title of the invention as not being descriptive of the claimed invention. Applicant respectfully submits that the present title, "A Method And Apparatus Of Using A Neural Network To Train A Neural Network," closely follows the preamble of each independent claim, and thus is clearly descriptive of the invention as claimed. Furthermore, the title complies with the requirement of 37 C.F.R. § 1.72 that the title "must be as short and specific as possible." Accordingly, Applicant requests that the objection to the title be withdrawn.

Rejections Under 35 U.S.C. §101

Claims 2 and 4 stand rejected under 35 U.S.C. §101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. The Examiner has suggested that since the claims are not claimed to be practiced on a computer, they are not limited to practical application in the technological arts.

Applicant notes that although claim 2 has been canceled, its limitations are incorporated in amended independent claim 3, which originally depended from claim 2. Applicant has amended claim 3 to recite a method for execution by a processor. Applicant submits that a method for execution by a processor is within the technological arts.

Applicant has amended independent claim 4 to be drawn to a computerized system. Applicant submits that a computerized system is within the technological arts.

Applicant respectfully reminds the Examiner that "a specification which contains a disclosure of utility which corresponds in scope to the subject matter sought to be patented must be taken as sufficient to satisfy the utility requirement of § 101 for the entire claimed subject matter unless there is a reason for one skilled in the art to question the objective truth of the statement of utility or its scope." (MPEP 2107.02). Applicant respectfully submits that the usefulness of neural networks in general is well understood. Furthermore, the ability to train a neural network using a neural network, as opposed to human training, is also well understood. For example, as discussed in

Applicant's Specification, among other uses, the claimed invention may allow single pass training of a neural network once the geometry of the training network is specified. (Specification, p. 30, lines 11-15).

Accordingly, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. §101 be withdrawn.

Rejections Under 35 U.S.C. §112

35 U.S.C. §112, First Paragraph

Claims 2 and 4 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The Examiner has cited MPEP 2164.07(1)(a) for the proposition that based on the 35 U.S.C. §101 rejections above, Applicant's claimed invention of claims 2 and 4 is "useless," and thus Applicant's specification could not have taught how to use the invention, thereby triggering the present enablement rejection under 35 U.S.C. §112, first paragraph. Applicant submits that based on the amendments to claims 3 and 4, and the discussion above with respect to the rejection under 35 U.S.C. §101, the claimed invention has utility. Applicant further submits that Applicant's specification provides enablement of the claimed invention. For example, at page 29, line 22 to page 30, line 22, Applicant's Specification provides a description of a flow diagram for a method of using a neural network to train a neural network. The described method may be implemented on a machine such as the computer system described with respect to Figure 6. Accordingly, Applicant requests that the rejection of the claims under 35 U.S.C. §112, first paragraph, be withdrawn.

35 U.S.C. §112, Second Paragraph

Claim 7 stands rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. The Examiner has asserted that the omitted structural cooperative relationship is the connection of the Radon transform generator to the feeder. Applicant notes that claim 7 has been canceled, and that its limitations are incorporated in amended independent

claim 8, which originally depended from claim 7. Applicant respectfully submits that claim 8 has been amended to claim the Radon transform generator coupled to a feeder. Accordingly, Applicant requests the withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Rejections Under 35 U.S.C. §103(a)

Elsherif in view of Boone and Samarasekera

Claims 2, 4, 5 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over "On Modifying the Weights in a Modular Recurrent Connectionist System," by Elsherif et al. ("Elsherif"), in view of Boone et al., U.S. Patent No. 5,953,452 ("Boone"), and Samarasekera et al., U.S. Patent No. 5,960,055 ("Samarasekera"). Applicant respectfully submits that the present claims are patentable over the Examiner's recited combination.

Applicant has canceled claims 2 and 7. Accordingly, the Examiner's rejection of these claims is moot. As amended, independent claims 4 and 5 each recite that the first neural network and the second neural network are dual to each other. The Examiner has admitted that the combination of Elsherif, Boone and Samarasekera does not teach or suggest this limitation. (Office Action, p.11-13). Accordingly, Applicant requests that the rejection of claims 4 and 5 over the combination be withdrawn.

Elsherif in view of Boone, Samarasekera and Rising

Claims 3 and 8-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Elsherif in view of Boone, Samarasekera, and "Inversion Processes in the Human Visual System," by Rising ("Rising"). Applicant respectfully submits that the present claims are patentable over the Examiner's recited combination.

Applicant respectfully submits that the Rising reference, "Inversion Processes in the Human Visual System," is not a proper reference under any section of 35 U.S.C. §103 or 35 U.S.C. §102. The Rising reference was published in the Proceedings of the SPIE, Volume 3959 in June, 2000. The Table of Contents of the Proceedings is submitted herewith. The TOC lists the Rising reference at page 400.

The present application has a filing date of January 22, 2001, and claims the benefit of U.S. Provisional Patent Application 60/178,060, which was filed January 24, 2000. The Provisional Application is based on the text of the Rising Reference as it was subsequently published, and is Applicant's own work. Accordingly, since the Rising reference was published after Applicant's effective filing date of January 24, 2000, it cannot properly be used to reject the present claims.

Independent claims 3, 4, 5 and 8, as amended, each recite that a first neural network and a second neural network are dual to each other. The Examiner has admitted that the combination of Elsherif, Boone and Samarasekera does not teach or suggest the limitation that a first neural network and a second neural network are dual to each other. (Office Action, p.11-13). Instead, the Examiner has relied on the Rising reference to provide this missing element and the motivation to do so. However, as discussed above, the Rising reference is not prior art. Since the remaining references admittedly do not teach or suggest the missing element, the claims are not obvious over the recited combination. Applicant further notes that independent claims 4 and 5, as amended, include the limitation that a first neural network and a second neural network are dual to each other. Accordingly, Applicant respectfully requests the withdrawal of the rejections of independent claims 3, 4, 5 and 8, and claims 9-14 that depend from them, under 35 U.S.C. §103(a).

Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome and the pending claims are in condition for allowance.

If the Examiner determines the prompt allowance of the claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heileson at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 3/22, 2004

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